

# Source Water Assessment Program (SWAP) Report

## For

### Colony Heights Condominiums



Prepared by the  
Massachusetts Department of  
Environmental Protection,  
Bureau of Resource Protection,  
Drinking Water Program

Date Prepared:  
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**Table 1: Public Water System (PWS) Information**

<i>PWS NAME</i>	Colony Heights Condominiums
<i>PWS Address</i>	33 Sherburne Avenue
<i>City/Town</i>	Tyngsboro
<i>PWS ID Number</i>	2301020
<i>Local Contact</i>	David Whelan
<i>Phone Number</i>	(978) 649-3350

<i>Well Name</i>	<i>Source ID#</i>	<i>Zone I (in feet)</i>	<i>IWPA (in feet)</i>	<i>Source Susceptibility</i>
Well #1	2301020-01G	242	596	Moderate
Well #2	2301020-02G	242	596	Moderate
Well #3	2301020-03G	242	596	Moderate

#### What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

? Inventory land uses within the recharge areas of all public water supply sources;

? **Assess the susceptibility of drinking water** sources to contamination from these land uses; and

? Publicize the results to provide support for improved protection.

#### SWAP and Water Quality

Susceptibility of a drinking water source does *not* imply poor water quality. Actual water quality is best reflected by the results of regular water tests.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

#### Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including septic systems, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

#### Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential contaminant sources, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

#### This report includes:

1. Description of the Water System
2. Discussion of Land Uses within Protection Areas
3. Recommendations for Protection
4. Attachments, including a Map of the Protection Areas

#### 1. Description of the Water System

The well for Colony Heights Condominiums is located behind the on-site building that is closest to Sherbourne Avenue. The well has a Zone I of 242 feet and an Interim Wellhead Protection Area (IWPA) of 596 feet. There are two other wells at the site that are inactive and each well has a Zone I of 242 feet and an IWPA of 596 feet. The wells are located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers that can prevent contaminant migration. Please refer to the attached map of the Zone I and IWPA.

The well serving the facility has no treatment at this time. For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1 for a copy of the most recent Consumer Confidence Report.

### What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused.

Each well has a Zone I protective radius and an Interim Wellhead Protection Area (IWPA).

- **The Zone I** is the area that should be owned or controlled by the water supplier and limited to water supply activities.
- **The IWPA** is the larger area that is likely to contribute water to the well.

In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are not identified in this report.

### What is Susceptibility?

Susceptibility is a measure of a well's potential to become contaminated due to land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA).

## 2. Discussion of Land Uses in the Protection Areas

There are a number of land uses and activities within the drinking water supply protection areas that are potential sources of contamination.

Key issues include:

1. **Inappropriate Activities in Zone Is;**
2. **Septic systems within the Zone Is and IWPAs;**
3. **A golf course within the Zone Is and IWPAs; and**
4. **Transportation corridor;**

The overall ranking of susceptibility to contamination for the well is Moderate, based on the presence of moderate threat land use or activity in the IWPA, as seen in Table 2.

1. **Zone I** – Currently, the wells do not meet DEP's restrictions, which only allow water supply related activities in Zone Is. The facility's Zone I contains buildings, roads (Sherbourne Avenue and the on-site access road), parking areas, golf course and recreational activities (playground and a tennis court). The public water supplier does not own and/or control all land encompassed by the Zone I. Please note that systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying systems.

#### Recommendations:

- ✓ Remove all non-water supply activities from the Zone Is to comply with DEP's Zone I requirements.
- ✓ Do not use or store pesticides, fertilizers or road salt within the Zone Is.
- ✓ If the facility intends to continue utilizing the structures in the Zone I, use BMPs and restrict activities that could pose a threat to the water supply.

2. **Septic systems** – Three septic systems belonging to the condominium complex and a private home across Sherbourne Avenue are within the Zone I and IWPA of the water supply. The septic systems are pumped once a year. If septic systems are not properly maintained, they can be the source of nitrate and microbial contamination.

#### Recommendations:

- ✓ Residents should be trained on proper disposal of spent household chemicals and encouraged to participate in local Household Hazardous waste collections.
- ✓ Septic system components should be located, inspected, and maintained on a regular basis. Refer to the attachments for more information on septic systems.

**Table 2: Table of Activities within the Water Supply Protection Areas**

Potential Contaminant Sources	Zone I	IWPA	Threat	Comments
Parking lot, driveways & roads	All wells	All wells	Moderate	Limit road salt usage and provide drainage away from wells
Golf course	All wells	All wells	Moderate	Fertilizer and pesticide use
Septic System	All wells	All wells	Moderate	See septic systems brochure in the appendix
Transportation corridor	No	All wells	Moderate	Limit road salt usage, have emergency plan
Aquatic wildlife	All wells	All wells	Low	Stream

\* -For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - [www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/).

## Glossary

**Zone I:** The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. To determine your Zone I radius, refer to the attached map.

**IWPA:** A 400 foot to ½ mile radius around a public water supply well proportional to its pumping rate; the area DEP recommends for protection in the absence of a defined Zone I. To determine IWPA radius, refer to the attached map.

**Zone II:** The primary recharge area defined by a hydrogeologic study.

**Aquifer:** An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

**Hydrogeologic Barrier:** An underground layer of impermeable material that resists penetration by water.

**Recharge Area:** The surface area that contributes water to a well.

3. **Golf course** – A golf course is located within the Zone I and IWPA of the wells. Improper handling, over-application, spills or leaks of fertilizers and pesticides could potentially contaminate the water supply.

**Recommendation:**

- ✓ No fertilizers or pesticides should be applied to the area of the golf course that falls within the Zone I.
- ✓ Encourage Best Management Practices for pesticides and fertilizers within the IWPA.

4. **Transportation corridor** – Pawtucket Boulevard, a heavily traveled road, is located within the IWPA of the water supply well. Transportation corridors are a potential source of contamination from road salt and or accidental leaks or spills of chemicals.

**Recommendation:**

- ✓ Work with the town on proper hazardous material transportation, disposal, emergency response and best management practices..

Implementing the following recommendations will reduce the system's susceptibility to contamination.

## 3. Protection Recommendations

Implementing protection measures and best management practices (BMPs) will reduce the well's susceptibility to contamination. Colony Heights Condominiums should review and adopt the key recommendations above and the following:

### Zone I:

- ✓ Keep non-water supply activities out of the Zone I.
- ✓ Consider well relocation if Zone I threats cannot be mitigated.
- ✓ If it's not feasible to purchase privately owned land within the Zone I at this time, consider a conservation restriction that would prohibit potentially threatening activities or a right of first refusal to purchase the property.

### Training and Education:

- ✓ Post drinking water protection area signs at key visibility locations.

### Facilities Management:

- ✓ Implement Best Management Practices (BMPs) for the use of fertilizer, herbicides and pesticides on facility property.
- ✓ Well casing should extend above ground.

### Planning:

- ✓ Work with local officials in Tyngsboro to include the condominium's IWPA in Aquifer Protection District Bylaws and to assist you in improving protection.
- ✓ Have a plan to address short-term water shortages and long-term water demands. Keep the phone number of a bottled water company readily available.
- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a potential contaminant threat inventory to assist in setting priorities, focusing inspections, and creating educational activities.

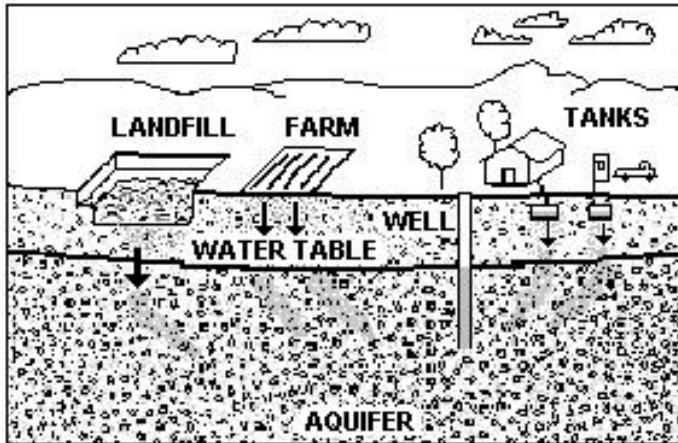


Figure 1: Example of how a well could become contaminated by different land uses and activities.

### For More Information:

Contact **Josephine Yemoh-Ndi** in DEP's **Worcester Office** at **(508) 792-7650 x 5030** for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on the Drinking Water Program web site at:  
[www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/)

### Additional Documents:

To help with source protection efforts, more information is available by request or online at [www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/) including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

Copies of this assessment have been provided to the water department, town boards, the town library and the local media.

### Funding:

The Department's Wellhead Protection Grant Program provides funds to assist public water suppliers in addressing Wellhead protection through local projects. Protection recommendations discussed in this document may be eligible for funding under the 2001 "Wellhead Protection Grant Program". For additional information, please refer to the attached program fact sheet from last year (Please note: each program year the Department posts a new Request for Response for the Grant program (RFR)).

These recommendations are only part of your ongoing local drinking water source protection. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures.

## 4. Attachments

- Map of the Public Water Supply (PWS) Protection Area.
- Recommended Source Protection Measures Factsheet
- Your Septic System Brochure
- Pesticide Use Factsheet
- Wellhead Protection Grant Program Fact Sheet
- Source Protection Sign Order Form